

## STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

K00002942 Lab ID:

**Knoxville Regional Laboratory** 

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratice's and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002942001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.: Date/Time Collected:

EMORY012.1RO 10/01/2009 11:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville

**Billing Code:** Send Report To: Agency Invoiced: TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.42

pH Units

Chlorine, residual:

Conductivity:

61

uMHO

Temperature: 18.27 **Dissolved Oxygen: 9.77** 

mg/L

Other:

Flow:

**CFS** 

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	780	μg/L	2.9	10	A Wilson	10/6/2009

TEST: ICP-MS	ME	THOD: EPA 200	0.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Aluminum	105	μg/L	6.4	10	M Pattanayek	10/2/2009	
Antimony	U	μg/L	0.33	1	M Pattanayek	10/2/2009	
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/2/2009	
Barium	27	μg/L	2.5	5	M Pattanayek	10/2/2009	
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009	
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009	
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009	
Cobalt	0.39J	μg/L	0.04	1	M Pattanayek	10/2/2009	
Copper	0.45J	μg/L	0.38	1	M Pattanayek	10/2/2009	
Lead	0.22J	μg/L	0.10	1	M Pattanayek	10/2/2009	
Manganese	120	μg/L	0.42	1	M Pattanayek	10/2/2009	
Nickel	1.3	μg/L	0.25	1	M Pattanayek	10/2/2009	
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009	
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009	
Thallium	0.069J	μg/L	0.03	1	M Pattanayek	10/2/2009	
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009	
Zinc	1.9J	μg/L	1.9	5	M Pattanayek	10/2/2009	

K00002942001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY012.1RO

Date/Time Collected:

10/01/2009 11:40

Sampler's Name: County:

Geoff Klein **ROANE - 73** 

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

METH	OD: EPA 24	5.1				
LT	UNITS	MDL	MQL	ANALYZED BY:	DATE	

**Field Determinations** 

**Dissolved Oxygen: 9.77** 

Chlorine, residual:

Conductivity:

Temperature:

7.42

61

18.27

pH Units

uMHO

mg/L

**CFS** 

:Hq

Other:

Flow:

**TEST: Mercury ANALYTE RESUL** U μg/L 0.029 0.2 A Bass 10/5/2009 Mercury

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942002

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River 2.1

**Project Site No.:** 

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

10/01/2009 10:01

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water Knoxville

**Sampling Agency: Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

12:40

**Send Report To:** Agency Invoiced:

**Priority Date:** 

Date/Time Received: 10/01/2009

Received By:

S Staller

**Field Determinations** 

pH: 7.74

Chlorine, residual:

Conductivity:

62

18.82

pH Units

uMHO

mg/L

Temperature: Dissolved Oxygen: 8.68

Other:

**CFS** Flow:

TEST: Digestion Metals	MET	METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
iron	620	μg/L	2.9	10	A Wilson	10/6/2009

TEST: ICP-MS	ME.	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	650	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	0.40J	μg/L	0.33	1	M Pattanayek	10/2/2009
Arsenic	7.5	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	51	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	0.19J	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	2.0J	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	0.64J	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	2.7	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	1.1	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	52	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	2.0	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	0.14J	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	5.4	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	4.4J	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River 2.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY002.1RO

**Date/Time Collected:** 

10/01/2009 10:01

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

Water

EFO:

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:** 

TDEC-WPC TDEC-WPC

**Priority Date:** 

**Date/Time Received:** 

10/01/2009 12:40

Received By:

**TEST: Mercury** 

S Staller

METHOD: EPA 245 1	

**Field Determinations** 

Dissolved Oxygen: 8.68

Chlorine, residual:

Conductivity:

Temperature:

7.74

18.82

62

pH Units

uMHO

mg/L

**CFS** 

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942003

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY001.9RO

**Date/Time Collected:** 

10/01/2009 10:16

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 7.27 pH Units pH: Chlorine, residual: Conductivity: 62 **uMHO** 

18.71

Temperature: Dissolved Oxygen: 8.31

Other: Flow:

**CFS** 

mg/L

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	510	μg/L	2.9	10	A Wilson	10/6/2009

TEST: ICP-MS	ME <sup>-</sup>	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	410	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	· U	μg/L	0.33	1	M Pattanayek	10/2/2009
Arsenic	3.3J	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	37	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	1.0	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	1.0	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	3.8	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	0.82J	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	56	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	4.6	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	0.065J	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	8.5	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942003

**Project Name:** 

TVA-Ash Spill

**Sample Description:** 

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

2B

Station No.:

EMORY001.9RO

Date/Time Collected: Sampler's Name:

10:16 10/01/2009

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO:

Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009

12:40

Received By:

**TEST: Mercury** 

S Staller

METHO	)D. E	EDA 2	AE 4

**Field Determinations** 

Dissolved Oxygen: 8.31

Chlorine, residual:

Conductivity:

Temperature:

7.27

62

18.71

pH Units

**uMHO** 

mg/L

**CFS** 

:Hq

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942004

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

**Project Site No.:** 

Station No.:

Date/Time Collected:

EMORY001.7RO 10/01/2009 10:26

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: **Billing Code:** 

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.18

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 64

18.76

mg/L

Dissolved Oxygen: 8.24 Other:

Flow:

**CFS** 

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	460	μg/L	2.9	10	A Wilson	10/6/2009

TEST: ICP-MS	ME <sup>-</sup>	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	400	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/2/2009
Arsenic	3.4J	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	39	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	0.41J	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	2.3	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	0.66J	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	47	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	1.5	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	0.060J	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	. 2.6J	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

**Project Site No.:** 

Station No.:

EMORY001.7RO

**Date/Time Collected:** 

10/01/2009 10:26

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

**Billing Code:** Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

:Hq

7.18

pH Units

uMHO

Chlorine, residual:

Conductivity:

64

Temperature: Dissolved Oxygen: 8.24

18.76

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY000.1RO

Date/Time Collected:

10/01/2009 10:41

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.23

pH Units

Chlorine, residual:

Conductivity:

77

uMHO

Temperature:

19.10 **Dissolved Oxygen: 8.17** 

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	ANALYZED BY:	DATE			
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL. ^	MQL	ANALYZED BY:	DATE
Iron	430	μg/L	2.9	10	A Wilson	10/6/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Aluminum	350	μg/L	6.4	10	M Pattanayek	10/2/2009	
Antimony	U	μg/L	0.33	1	M Pattanayek	10/2/2009	
Arsenic	2.8J	μg/L	0.93	5	M Pattanayek	10/2/2009	
Barium	40	μg/L	2.5	5	M Pattanayek	10/2/2009	
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009	
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009	
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009	
Cobalt	0.38J	μg/L	0.04	1	M Pattanayek	10/2/2009	
Copper	2.4	μg/L	0.38	1	M Pattanayek	10/2/2009	
Lead	0.65J	μg/L	0.10	1	M Pattanayek	10/2/2009	
Manganese	51	μg/L	0.42	1	M Pattanayek	10/2/2009	
Nickel	1.5	μg/L	0.25	1	M Pattanayek	10/2/2009	
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009	
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009	
Thallium	0.053J	μg/L	0.03	1	M Pattanayek	10/2/2009	
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009	
Zinc	2.7J	μg/L	1.9	5	M Pattanayek	10/2/2009	

K00002942005

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 0.1

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

10/01/2009 10:41

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.23

pH Units

Chlorine, residual:

Conductivity:

77

**uMHO** 

Temperature:

19.10

Dissolved Oxygen: 8.17

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.: CLINC002.3RO

Date/Time Collected:

10/01/2009 11:05

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:** 

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009

12:40

Received By:

S Staller

**Field Determinations** pH: 7.59

Chlorine, residual:

Conductivity: 182 Temperature: 18.74

**Dissolved Oxygen:** 7.96

Other: Flow:

**CFS** 

pH Units

uMHO

mg/L

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP	ST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	230	μg/L	2.9	10	A Wilson	10/6/2009	

TEST: ICP-MS	· ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	180	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	U	μg/L	0.33	. 1	M Pattanayek	10/2/2009
Arsenic	1.2J	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	35	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	U .	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	0.21J	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	1.9	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	0.30J	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	36	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	2.2J	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

10/01/2009 11:05

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009

12:40

Received By:

**TEST: Mercury** 

S Staller

MET	HOD	: EPA	245.1	

**Field Determinations** 

Dissolved Oxygen: 7.96

Chlorine, residual:

Conductivity:

Temperature:

7.59

182

18.74

pH Units

uMHO

mg/L

**CFS** 

pH:

Other:

Flow:

ANALYIE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009	_

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

5A

Station No.:

KingAshOutF2

Date/Time Collected:

10/01/2009 11:16

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.30

pH Units

Chlorine, residual:

Conductivity:

96

uMHO

Temperature: 21.22 Dissolved Oxygen: 8.04

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/02/2009				M Pattanayek	10/2/2009

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	460	μg/L	2.9	10	A Wilson	10/6/2009	

TEST: ICP-MS	ME.	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	400	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	0.88J	μg/L	0.33	1	M Pattanayek	10/2/2009
Arsenic	4.6J	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	47	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	0.42J	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	4.5	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	0.67J	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	75	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	0.14J	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	4.9J	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	6.1	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

5A

Station No.:

Date/Time Collected:

KingAshOutF2 10/01/2009 11:16

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

**Billing Code:** Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009

12:40

Received By:

S Staller

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

**Field Determinations** 

**Dissolved Oxygen: 8.04** 

Chlorine, residual:

Conductivity:

Temperature:

:Hq

Other:

Flow:

7.30

96

21.22

pH Units

uMHO

mg/L

CFS

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002942008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

CLINC004.5RO

Date/Time Collected:

10/01/2009

Sampler's Name: County:

Geoff Klein

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

**TEST: Digestion Metals** 

10/01/2009

12:40

10/02/2009

10:53

Received By:

**Digestion Metals** 

Iron

S Staller

 	~~~
31 1· FDA	71111 7
DD: EPA	ZUU.Z

ANALYTE **RESULT** 

MDL UNITS

MQL ANALYZED BY: DATE

M Pattanayek

10/2/2009

pH Units

**uMHO** 

mg/L

**CFS** 

TEST: ICP

METHOD: EPA 200.7 **RESULT UNITS** ANALYTE

110 μg/L MDL MQL **ANALYZED BY:** 2.9 10 A Wilson

**Field Determinations** 

Dissolved Oxygen: 7.61

Conductivity:

Temperature:

7.61

263

18.39

pH:

Other: Flow:

> DATE 10/6/2009

METHOD: EPA 200.8 TEST: ICP-MS ANAL VTE PECI II T PTIMIL

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	81	μg/L	6.4	10	M Pattanayek	10/2/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/2/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/2/2009
Barium	34	μg/L	2.5	5	M Pattanayek	10/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/2/2009
Cobalt	0.16J	μg/L	0.04	1	M Pattanayek	10/2/2009
Copper	1.4	μg/L	0.38	1	M Pattanayek	10/2/2009
Lead	0.21J	μg/L	0.10	1	M Pattanayek	10/2/2009
Manganese	38	μg/L	0.42	1	M Pattanayek	10/2/2009
Nickel	1.0	μg/L	0.25	1	M Pattanayek	10/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/2/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	10/2/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/2/2009
Zinc	U	μg/L	1.9	5	M Pattanayek	10/2/2009

K00002942008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

**Project Site No.:** 

Sampler Project Name: TVA Ash Spill

Station No.:

CLINC004.5RO

**Date/Time Collected:** Sampler's Name:

10/01/2009 10:53 Geoff Klein

County:

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** :Hq 7.61

Temperature:

Conductivity: 263

18.39

Dissolved Oxygen: 7.61 mg/L

Other:

Flow:

**CFS** 

pH Units

uMHO

TEST: Mercury	MET	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.06J	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit



## STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Lab ID:

K00002942

**Knoxville Regional Laboratory** 

Sent To:

**Greg Denton** 

TDEC-WPC

6th Floor, L & C Tower Annex

Sampling Agency: TDEC: Division of Water Pollution Control

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

ŧ

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002942001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY012.1RO

**Date/Time Collected:** 

10/01/2009 11:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

**ROANE - 73** 

EFO:

Water

**Sampling Agency:** 

Knoxville

**Billing Code:** 

**TDEC-WPC** 

**Send Report To:** 

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

рн:	7.42	ph Units
Chlorine, re	sidual:	
Conductivity	y: 61	uMHO
Temperatur	18 27	

Temperature:

**Dissolved Oxygen: 9.77** 

Other:

**Field Determinations** 

mg/L

Flow: **CFS** 

TEST: Alkalinity, Total	linity, Total METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	16	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	19	mg/L	0.7	1	P Leathers	10/5/2009	

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/2/2009	

TEST: Residue, Suspended METHOD: SM 2540D						
ANALYTE	RESULT	UNITS MDL		MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00002942002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River 2.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY002.1RO

**Date/Time Collected:** 

10/01/2009 10:01

Sampler's Name: County:

Geoff Klein

**Sample Matrix:** 

**ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

**Send Report To:** 

TDEC-WPC

**Agency Invoiced:** 

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH: 7.74

Chlorine, residual:

62

pH Units

Conductivity:

18.82

**uMHO** 

Temperature: **Dissolved Oxygen: 8.68** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	18	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	10/2/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	77	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002942003

**Project Name:** 

TVA-Ash Spill

**Sample Description:** 

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

2B

Station No.:

EMORY001.9RO

**Date/Time Collected:** 

**Project Site No.:** 

10/01/2009 10:16

Sampler's Name:

Geoff Klein

County:

**ROANE - 73** 

**Sample Matrix:** EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

**Send Report To: Agency Invoiced:** 

TDEC-WPC TDEC-WPC

**Priority Date:** 

**Date/Time Received:** 

10/01/2009 12:40

Received By:

**ANALYTE** 

**Total Alkalinity** 

S Staller

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

UNITS

mg/L

RESULT

18

**Field Determinations** 

Dissolved Oxygen: 8.31

Chlorine, residual:

Conductivity:

Temperature:

7.27

62

18.71

S Burchfield

pH Units

uMHO

mg/L

**CFS** 

10/5/2009

:Hq

Other:

Flow:

3.8

10

TEST: Hardness, Calcium ANALYTE	ME.					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L.	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	23	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002942004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

**Project Site No.:** 

Station No.:

EMORY001.7RO

**Date/Time Collected:** Sampler's Name:

10/01/2009 10:26

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

:Hq

7.18

pH Units

Chlorine, residual:

Conductivity:

64

uMHO

Temperature:

18.76

**Dissolved Oxygen: 8.24** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME	THOD: EPA 31			· · · · · · · · · · · · · · · · · · ·	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	36	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	32	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	22	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002942005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

**Date/Time Collected:** 

**Project Site No.:** 

**Station No.:** 

EMORY000.1RO 10:41

Sampler's Name:

10/01/2009 Geoff Klein

County:

**ROANE - 73** 

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

pH:	7.23	pH Units
Chlorine, residual:		·
Conductivity:	77	uMHO

Temperature: 19.10

**Field Determinations** 

**Dissolved Oxygen: 8.17** 

Other: Flow:

**CFS** 

mg/L

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	40	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium ANALYTE	ME	THOD: SM 350	0-Ca D			
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	38	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.6	ml/L	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	170	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002942006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

CLINC002.3RO

**Date/Time Collected:** 

10/01/2009 11:05

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

**Sampling Agency:** 

Knoxville

**Billing Code:** 

TDEC-WPC

**Send Report To:** 

327.34-20

Agency Invoiced:

**TDEC-WPC** TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

TEST: Alkalinity, Total ANALYTE	ME	THOD: EPA 31	0.2			
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	76	mg/L	3.8	- 10	S Burchfield	10/5/2009

**Field Determinations** 

**Dissolved Oxygen: 7.96** 

Chlorine, residual:

Conductivity:

Temperature:

7.59

182

18.74

pH Units

**uMHO** 

mg/L

**CFS** 

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY:		DATE
Calcium hardness	64	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME:	THOD: SM 254	OF .			
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY:		DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002942007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River TVA Discharge Point

**Project Site No.:** 

5A

Station No.:

KingAshOutF2

**Date/Time Collected:** 

10/01/2009 11:16

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC

**Send Report To:** 

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

**Field Determinations** 

pH:

7.30

pH Units

Chlorine, residual:

Conductivity:

96

uMHO

Temperature:

21,22

**Dissolved Oxygen: 8.04** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2					****
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	28	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D		**************************************	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	32	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended	WE	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	25	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

Sample Description:

K00002942008

**Project Name:** 

TVA-Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

**Field Determinations** 

Dissolved Oxygen: 7.61

Conductivity:

Temperature:

7.61

263

18.39

pH Units

uMHO

mg/L

**CFS** 

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill **Project Site No.:** 

Station No.:

Date/Time Collected:

CLINC004.5RO 10:53

10/01/2009 Sampler's Name:

County:

Geoff Klein

Sample Matrix:

**ROANE - 73** 

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:** 

TDEC-WPC TDEC-WPC

**Priority Date:** 

Date/Time Received:

10/01/2009 12:40

Received By:

S Staller

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	95	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/2/2009

TEST: Residue, Suspended ANALYTE	ME.					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	10/2/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit**